

2N5194, 2N5195

Preferred Devices

Silicon PNP Power Transistors

These devices are designed for use in power amplifier and switching circuits: excellent safe area limits. Complement to NPN 2N5191, 2N5192.

MAXIMUM RATINGS (Note 1)

Rating	Symbol	2N5194	2N5195	Unit
Collector-Emitter Voltage	V_{CEO}	60	80	Vdc
Collector-Base Voltage	V_{CB}	60	80	Vdc
Emitter-Base Voltage	V_{EB}	5.0		Vdc
Collector Current	I_C	4.0		Adc
Base Current	I_B	1.0		Adc
Total Device Dissipation @ $T_C = 25^\circ\text{C}$ Derate above 25 C	P_D	40 320		W W/ C
Operating and Storage Junction Temperature Range	T_J, T_{stg}	-65 to +150		C/W

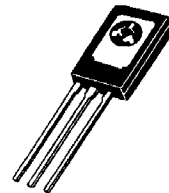
THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction-to-Case	θ_{JC}	3.12	C/W

Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

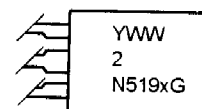
1. Indicates JEDEC registered data.

4 AMPERE POWER TRANSISTORS PNP SILICON 60 - 80 VOLTS

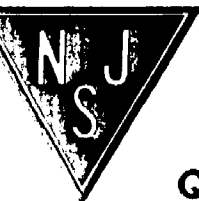


TO-225AA

MARKING DIAGRAM



Y = Year
WW = Work Week
2N519x = Device Code
x = 4 or 5



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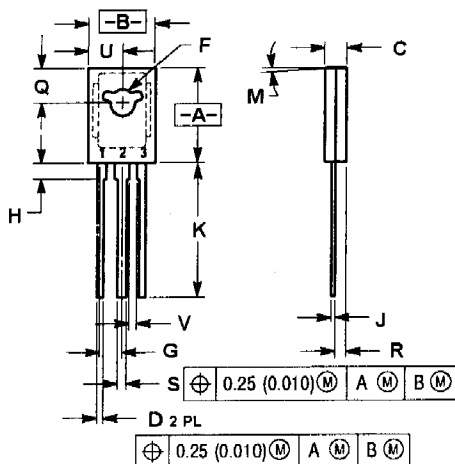
Quality Semi-Conductors

ELECTRICAL CHARACTERISTICS ($T_C = 25^\circ\text{C}$ unless otherwise noted) (Note 2)

Characteristic	Symbol	Min	Max	Unit
OFF CHARACTERISTICS				
Collector-Emitter Sustaining Voltage (Note 3) ($I_C = 0.1\text{ Adc}$, $I_B = 0$)	2N5194 2N5195 $V_{CEO(sus)}$	60 80	- -	Vdc
Collector Cutoff Current ($V_{CE} = 60\text{ Vdc}$, $I_B = 0$) ($V_{CE} = 80\text{ Vdc}$, $I_B = 0$)	2N5194 2N5195 I_{CEO}	- -	1.0 1.0	mAdc
Collector Cutoff Current ($V_{CE} = 60\text{ Vdc}$, $V_{BE(off)} = 1.5\text{ Vdc}$) ($V_{CE} = 80\text{ Vdc}$, $V_{BE(off)} = 1.5\text{ Vdc}$) ($V_{CE} = 60\text{ Vdc}$, $V_{BE(off)} = 1.5\text{ Vdc}$, $T_C = 125^\circ\text{C}$) ($V_{CE} = 80\text{ Vdc}$, $V_{BE(off)} = 1.5\text{ Vdc}$, $T_C = 125^\circ\text{C}$)	2N5194 2N5195 2N5194 2N5195 I_{CEX}	- - - -	0.1 0.1 2.0 2.0	mAdc
Collector Cutoff Current ($V_{CB} = 60\text{ Vdc}$, $I_E = 0$) ($V_{CB} = 80\text{ Vdc}$, $I_E = 0$)	2N5194 2N5195 I_{CBO}	- -	0.1 0.1	mAdc
Emitter Cutoff Current ($V_{BE} = 5.0\text{ Vdc}$, $I_C = 0$)	I_{EBO}	-	1.0	mAdc
ON CHARACTERISTICS				
DC Current Gain (Note 3) ($I_C = 1.5\text{ Adc}$, $V_{CE} = 2.0\text{ Vdc}$) ($I_C = 4.0\text{ Adc}$, $V_{CE} = 2.0\text{ Vdc}$)	2N5194 2N5195 2N5194 2N5195 h_{FE}	25 20 10 7.0	100 80 - -	-
Collector-Emitter Saturation Voltage (Note 3) ($I_C = 1.5\text{ Adc}$, $I_B = 0.15\text{ Adc}$) ($I_C = 4.0\text{ Adc}$, $I_B = 1.0\text{ Adc}$)	$V_{CE(sat)}$	- -	0.6 1.4	Vdc
Base-Emitter On Voltage (Note 3) ($I_C = 1.5\text{ Adc}$, $V_{CE} = 2.0\text{ Vdc}$)	$V_{BE(on)}$	-	1.2	Vdc
DYNAMIC CHARACTERISTICS				
Current-Gain — Bandwidth Product ($I_C = 1.0\text{ Adc}$, $V_{CE} = 10\text{ Vdc}$, $f = 1.0\text{ MHz}$)	f_T	2.0	-	MHz

- 2. Indicates JEDEC registered data.
- 3. Pulse Test: Pulse Width $\leq 300\ \mu\text{s}$, Duty Cycle $\leq 2.0\%$.

TO-225



- NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
 2. CONTROLLING DIMENSION: INCH.
 3. 077-01 THRU -08 OBSOLETE. NEW STANDARD 077-09.

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.425	0.435	10.80	11.04
B	0.295	0.305	7.50	7.74
C	0.095	0.105	2.42	2.66
D	0.020	0.026	0.51	0.66
F	0.115	0.130	2.93	3.30
G	0.094 BSC		2.39 BSC	
H	0.050	0.095	1.27	2.41
J	0.015	0.025	0.39	0.63
K	0.575	0.655	14.61	16.63
M	5° TYP		5° TYP	
Q	0.148	0.158	3.76	4.01
R	0.045	0.065	1.15	1.65
S	0.025	0.035	0.64	0.88
U	0.145	0.165	3.69	3.93
V	0.040	---	1.02	---

- STYLE 1:
 PIN 1. EMITTER
 2. COLLECTOR
 3. BASE